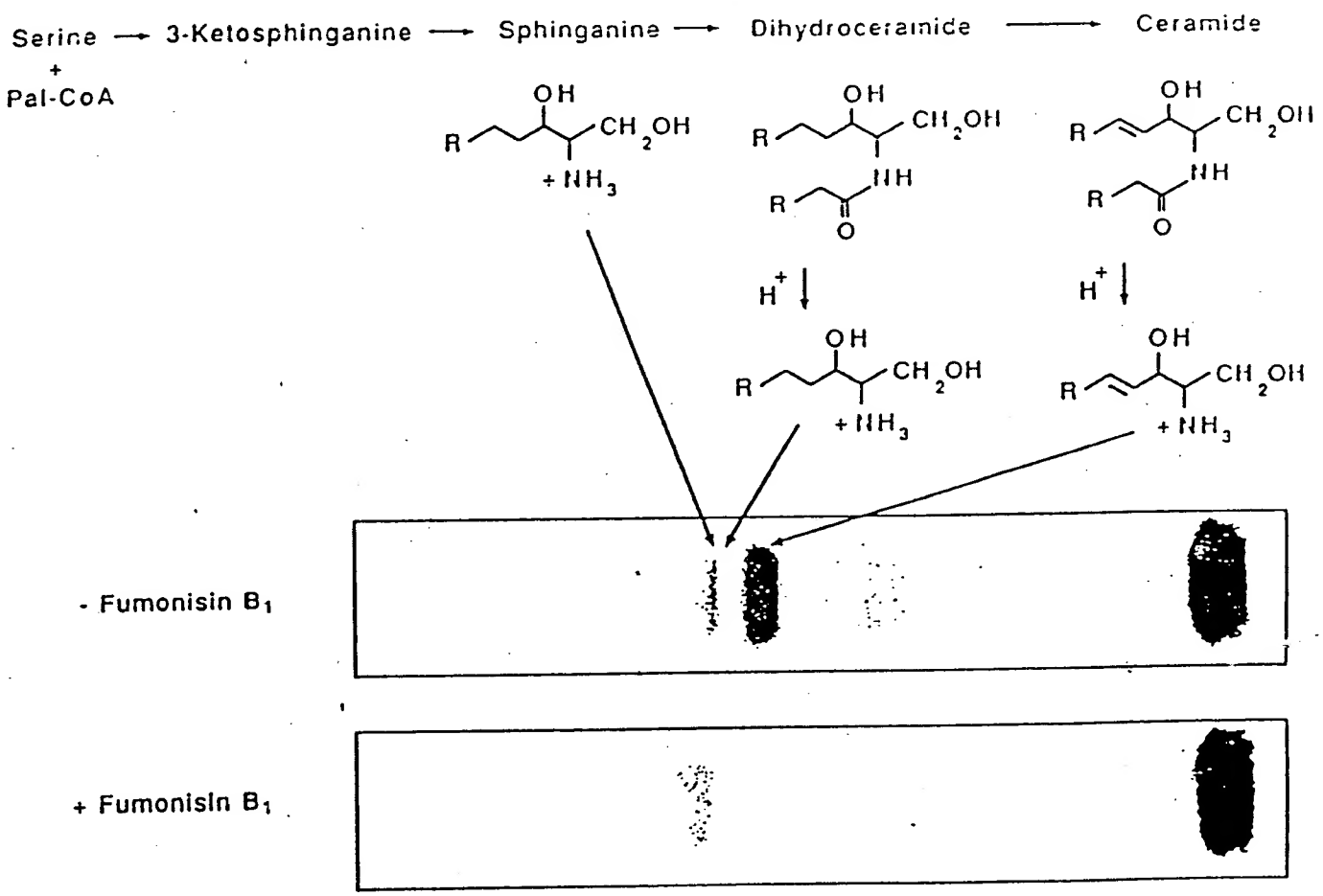
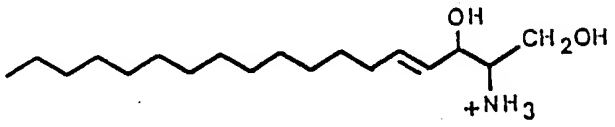
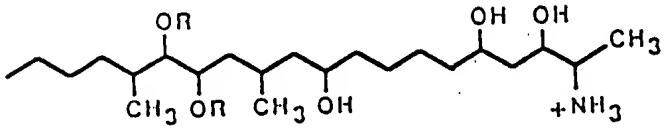


Figure 2

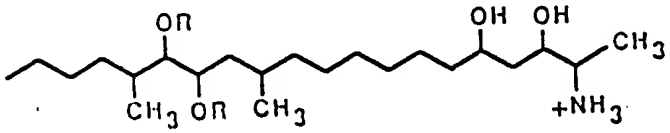
Figure 1



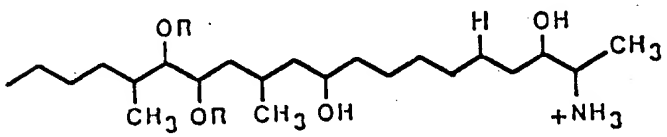
Sphingosine



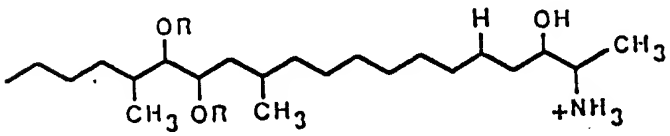
Fumonisin B_1



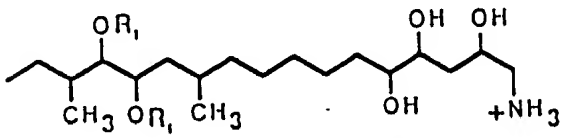
Fumonisin B_2



Fumonisin B_3

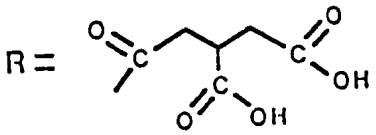


Fumonisin B_4



Alternaria toxins
(AAL toxins)

R_1 = H or R



Tricarballylic acid

Fumonisin Analogs

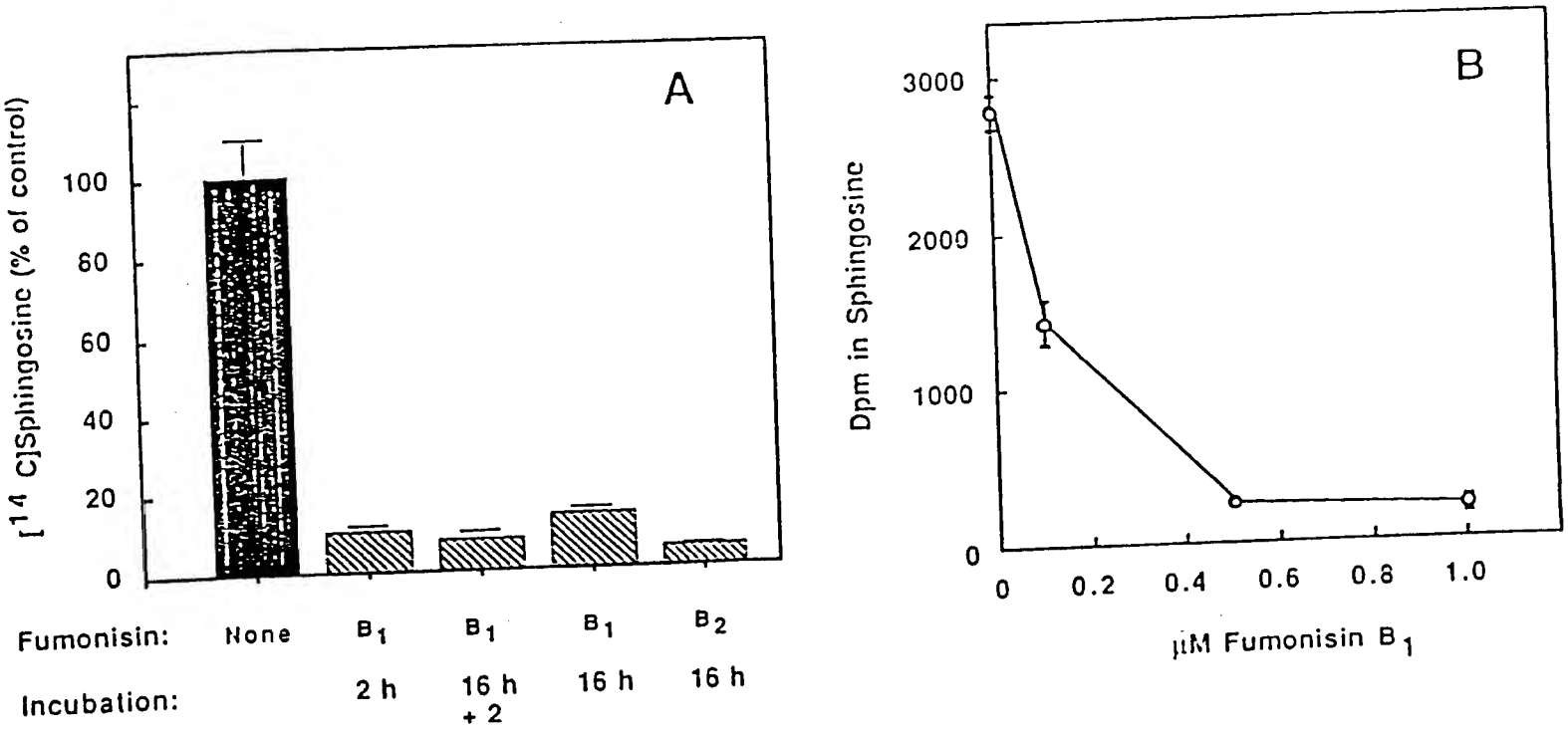


Figure 3

Figure 4

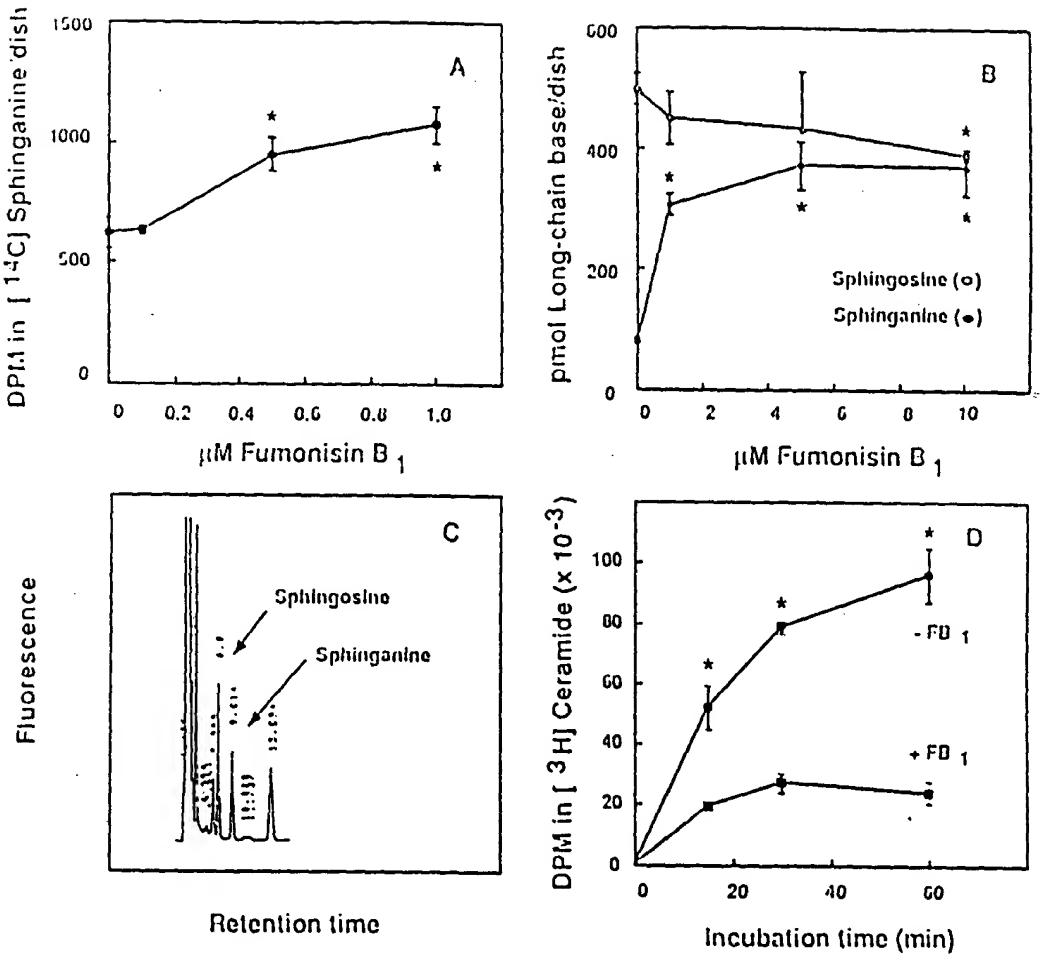
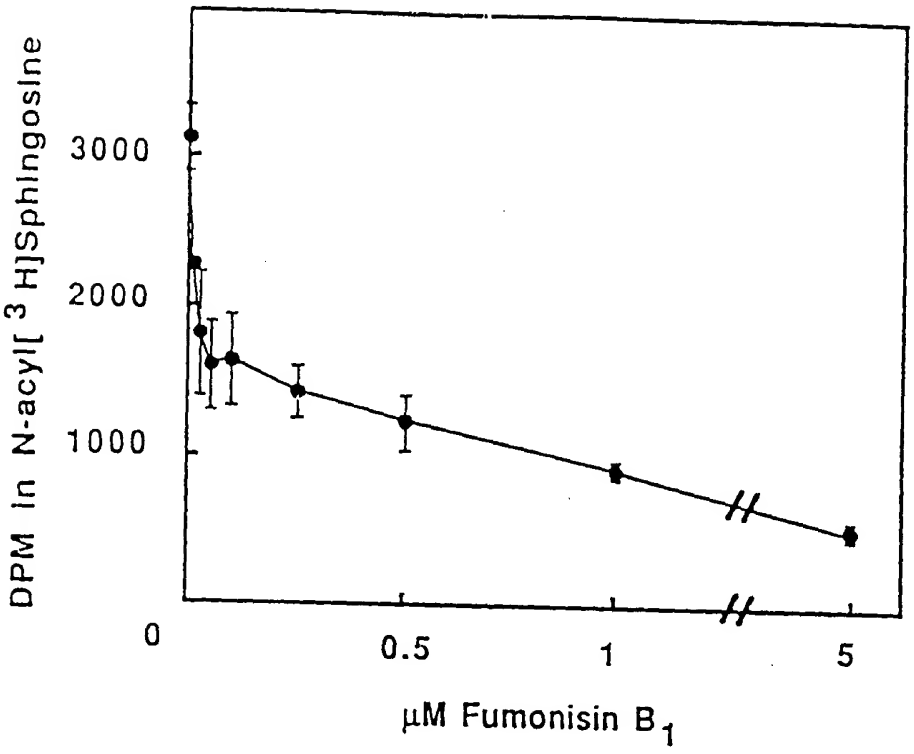

A
DPM in [14C] Sphinganine/dish
1500
1000
500
0
0 0.2 0.4 0.6 0.8 1.0
µM Fumonisin B 1
B
pmol Long-chain base/dish
600
400
200
0
0 2 4 6 8 10
µM Fumonisin B 1
Sphingosine (o)
Sphinganine (•)
C
Fluorescence
Sphingosine
Sphinganine
Retention time
D
DPM in [3H] Ceramide (x 10-3)
100
80
60
40
20
0
0 20 40 60
Incubation time (min)
- FB 1
+ FB 1

Figure 5


DPM In N-acyl[3 H]Sphingosine
3000
2000
1000
0
0.5
1
5
µM Fumonisin B 1

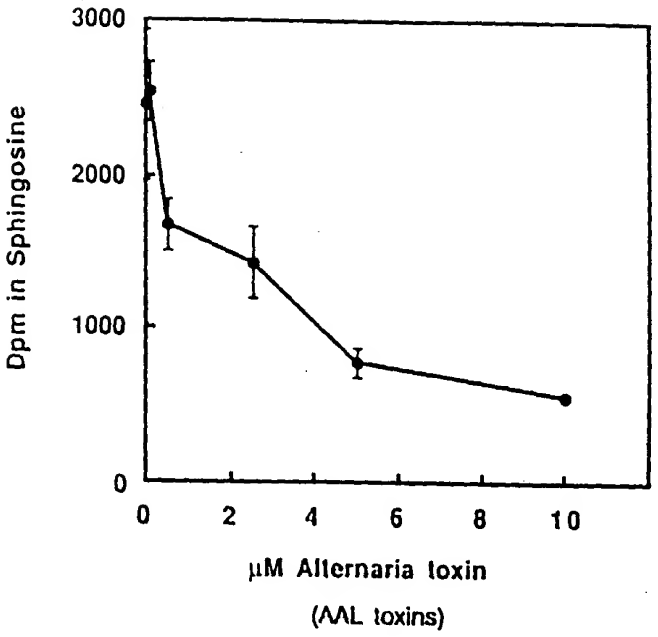

3000
2000
1000
0
Dpm in Sphingosine
0
2
4
6
8
10
µM Alternaria toxin
(AAL toxins)

Figure 6

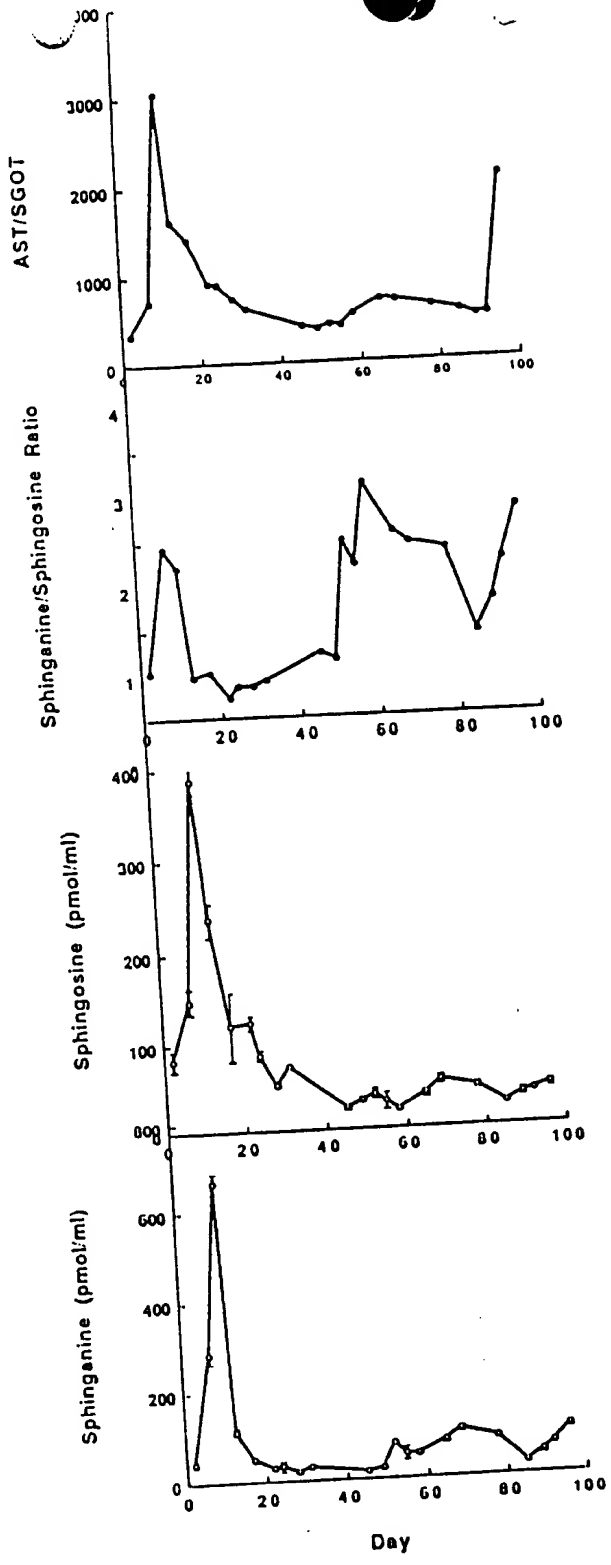

AST/SGOT
3000
2000
1000
0
20
40
60
80
100
Sphinganine/Sphingosine Ratio
4
3
2
1
Sphingosine (pmol/ml)
400
300
200
100
Sphinganine (pmol/ml)
600
400
200
Day

Figure 7

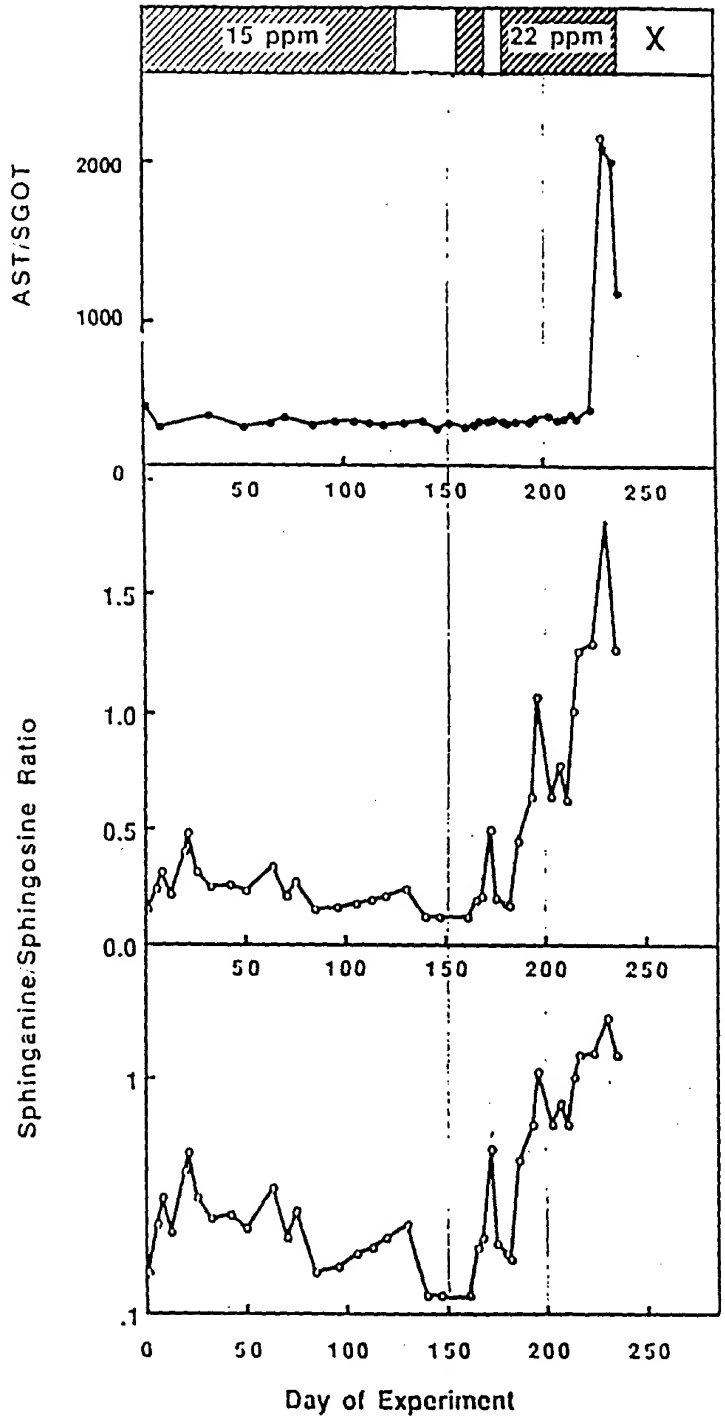

15 ppm
22 ppm
X
AST/SGOT
2000
1000
0
50
100
150
200
250
Sphinganine/Sphingosine Ratio
1.5
1.0
0.5
0.0
1
.1
Day of Experiment

Figure 8

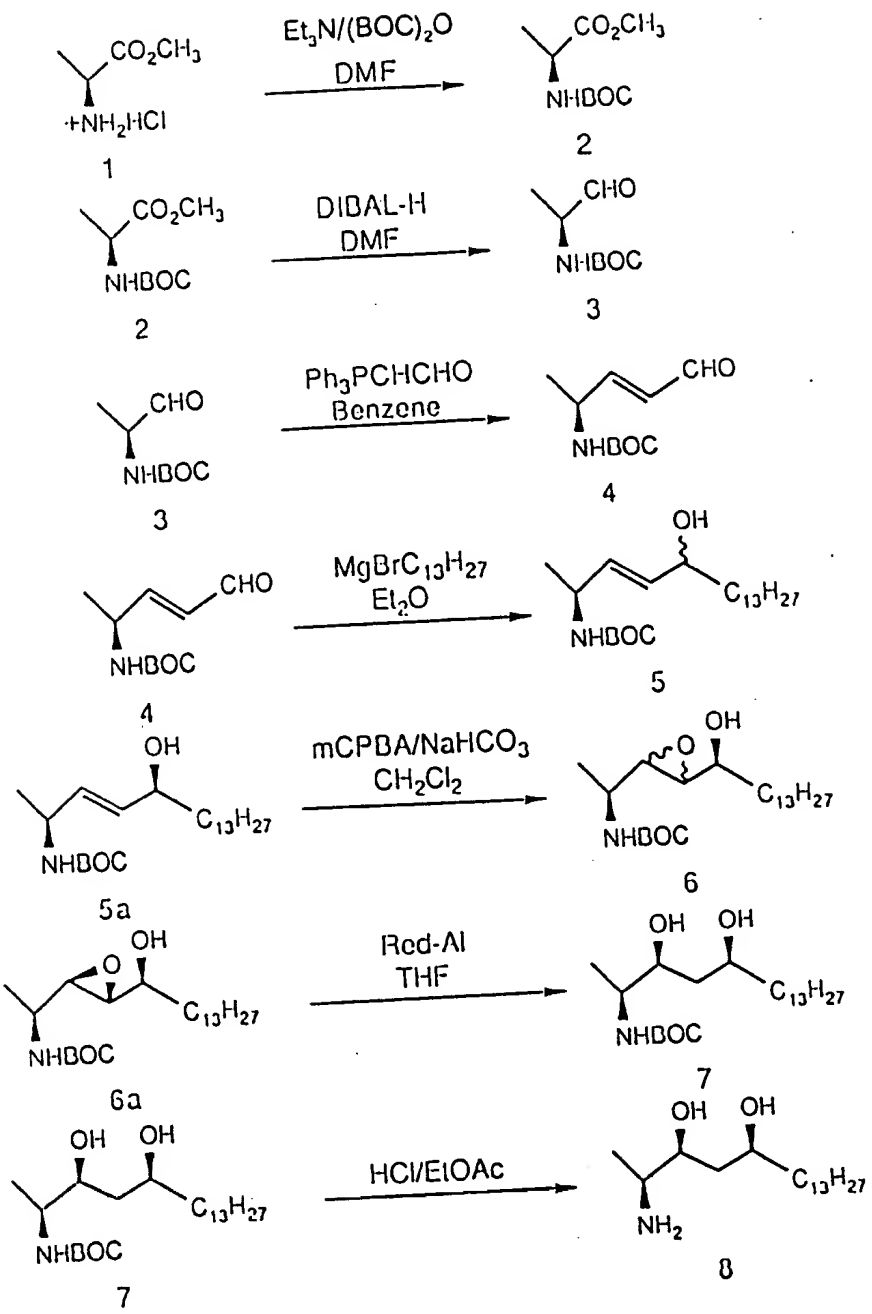

Et3N/(BOC)2O
DMF
DIBAL-H
DMF
Ph3PCHCHO
Benzene
MgBrC13H27
Et2O
mCPBA/NaHCO3
CH2Cl2
Red-Al
THF
HCl/EtOAc
1
2
3
4
5
5a
6
6a
7
8

Figure 9

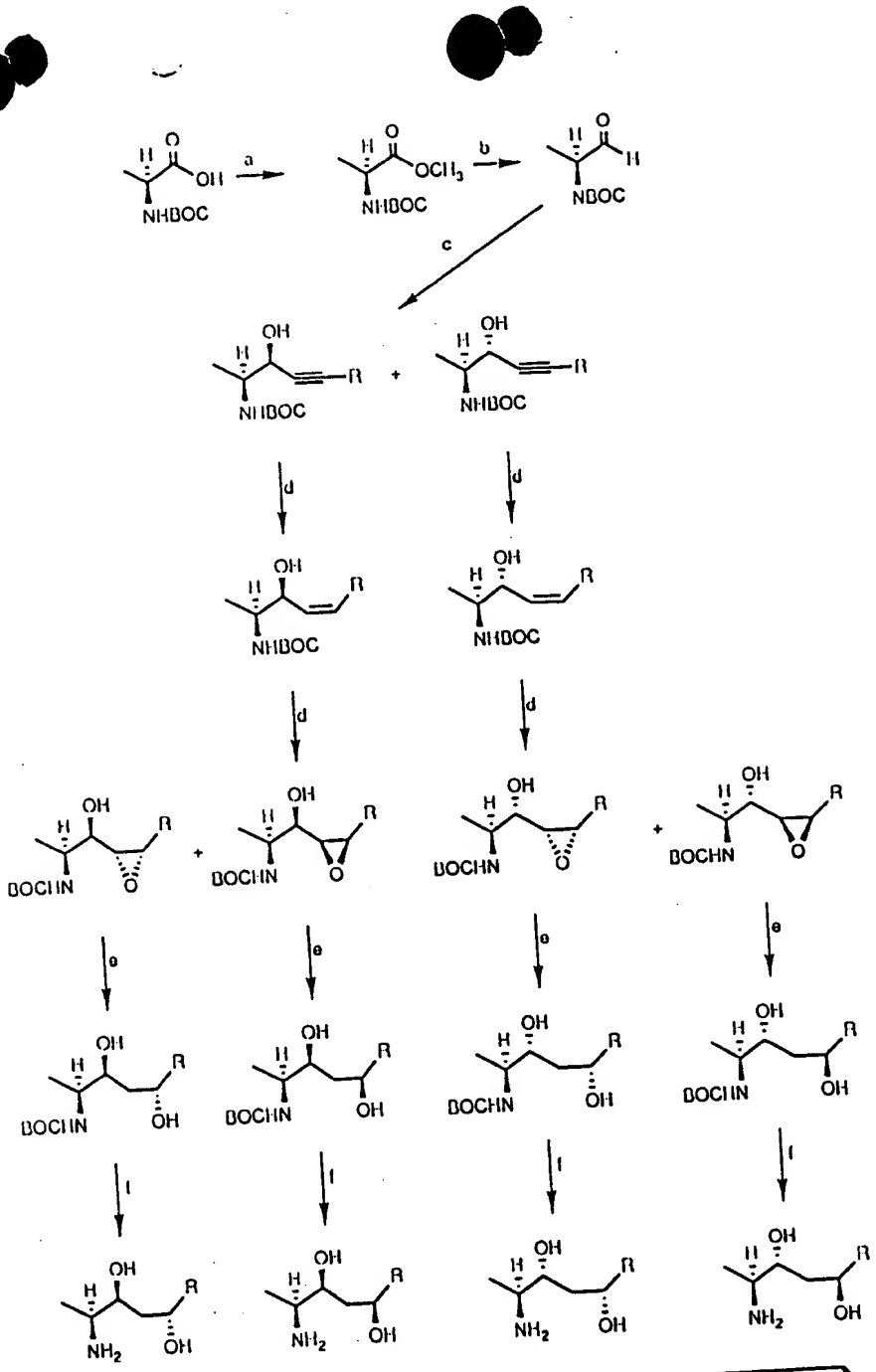
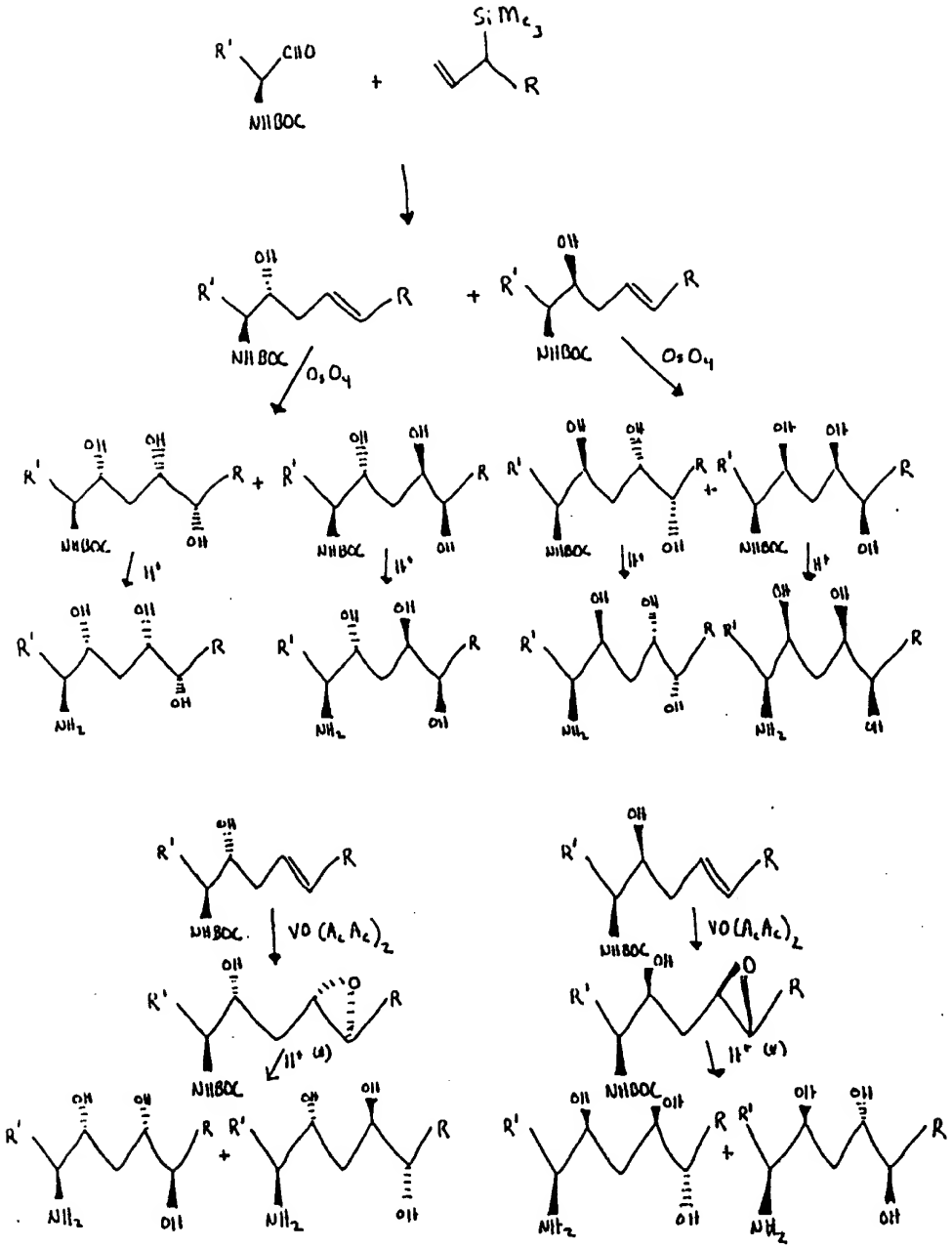

a. CH_2N_2; b. DIBAL; c. LiCCR; d. Peracid; e. $NaBH_3CN$; f. H^+
R = alkyl (straight chain or branched, C_0 - C_{20}), hydroxy alkyl, amino alkyl, alkylcarboxy (same definition of alkyl), aryl, esters of the hydroxyalkyl and alkylcarboxy groups, amides of the aminoalkyl and alkylcarboxy groups.

Figure 10

Figure 11



R = alkyl (straight chain or branched, C_8-C_{20}), hydroxy alkyl, amino alkyl, alkylcarboxy (same definition of alkyl), aryl, esters of hydroxyalkyl and alkylcarboxy groups, amides of the aminoalkyl and alkylcarboxy groups

R' = H, CH_3, C_2H_5, CH_2O-Protecting Group

(a) Epoxide opening and removal of the BOC group may be more efficiently achieved using two discrete hydrolysis steps